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## Quercus lyrata in Iowa

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(WITH PLATES 16 AND 17)

The discovery of the overcup oak, *Quercus lyrata* Walter, in Iowa, by the writer, so far extends the range of this species that it seems worthy of more detailed record. Sargent says\* that the species "is distributed from the valley of the Patuxent River in southern Maryland southward near the coast to western Florida, through the Gulf States to the valley of the Trinity River in Texas, through Arkansas and southwestern Missouri, where in a swamp near Allentown, there is a single specimen, the most northern known representative of the species west of the Mississippi River, to central Tennessee, southern Indiana, and Jasper County, Illinois."

Other authors give the distribution less fully, but in all the references consulted the range falls within that here given. The herbarium of the Missouri Botanical Garden at St. Louis contains several specimens from the southern counties of Illinois, and from Butler County, Missouri, but these localities also lie within the territory given by Sargent.

The Iowa specimens are located in Iowa County, near the town of Amana. This not only extends the northern range west of the Mississippi, but the locality is more than two degrees of latitude north of the Maryland and Illinois localities, making this the northernmost point from which the species is known.

Thus far three trees have been found. They are located in the low bottom land timber along the Iowa River, the locality being subject to overflow and always quite moist. They are associated with the large, bottomland form of the bur oak, *Quercus macrocarpa*, a few trees of *Q. bicolor*, and the ordinary bottomland species of Iowa valleys, such as *Ulmus americana*, *Betula nigra*, *Populus deltoides*, *Acer saccharinum*, *A. Negundo*, *Platanus occidentalis*, and *Juglans nigra*. Other trees of the species will probably be found among the "bur-oaks."

The finest of the three specimens (shown in PLATE 16, FIG. 1) is about 70 feet high, and the trunk measures 22 inches in diameter at a height of 3 feet. Its rate of growth is probably approxi-

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\*Silva of North America 8: 48. 1895.

mately the same as that of the large bottomland form of *Q. macrocarpa*, and a nearby specimen of the latter, recently cut, measured 27 inches in diameter and exhibited about 120 rings, those from about 55 to 85 showing the most rapid growth. Our overcup oak trees are probably not less than a hundred years old, thus antedating the coming of the white man to this section.

The trees have been observed both in flower and fruit. Sargent gives the time of flowering as March or April, but in this northern locality the flowers do not appear until about the middle of May.

Two of the trees produce acorns which are entirely enclosed in the cup; the third has a partly open cup, a form not infrequent in the South. The peduncles of the cups are 6-16 mm. in length. The wall of the cup is 3-6 mm. thick or even thicker at the base, but thins upward. The scales of the cup are prominently tubercular, the tubercles becoming smaller upward. The small opening has a short fringe.

The nut is short-ovate, with a broad basal scar and is 16-19 mm. in length, with about the same diameter. Its tops and sides are covered with a short, grayish pubescence. For cup and acorns see PLATE 16, FIG. 2.

The general aspect of the tree is not unlike that of the large form of *Q. macrocarpa* which grows in somewhat better drained spots in the same timber. The latter is here not gnarled or stunted, as is usually the case in more exposed localities. It is probable that our species has been mistaken for the latter in other localities.

The leaves are distinctly different from those of the nearby bur-oaks. As compared with the latter they are thinner, with more distinct veinlets; lighter green; more irregularly lobed, with the terminal lobe rarely coarsely crenate; usually smaller and narrower; and the upper surface is more likely to have scattered short hairs at maturity, while the pubescence of the lower surface is much less dense. PLATE 16, FIG. 3, shows young leaves, and PLATE 17 shows mature leaves taken in different years. The leaves and acorns shown on the plates are from the same tree.

On the whole the Iowa specimens of *Q. lyrata* are quite typical.

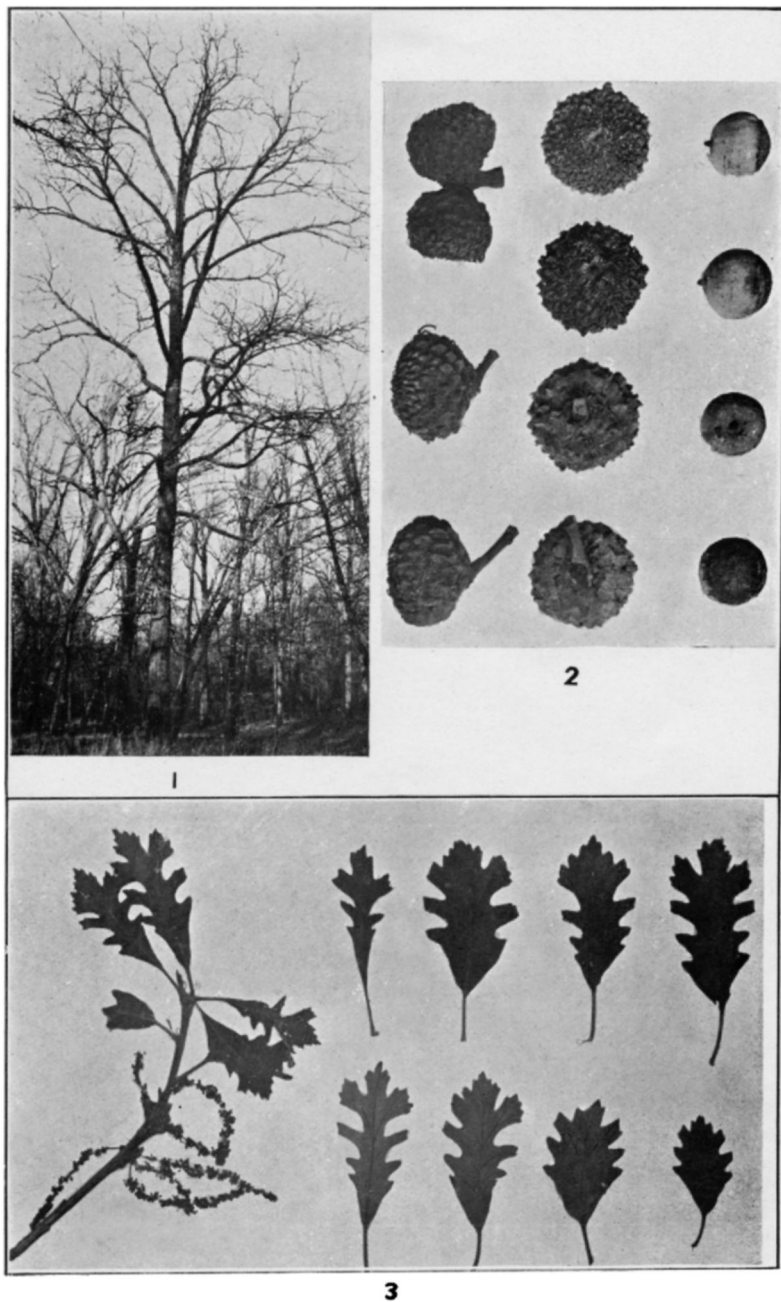
**Explanation of plates 16 and 17**

PLATE 16

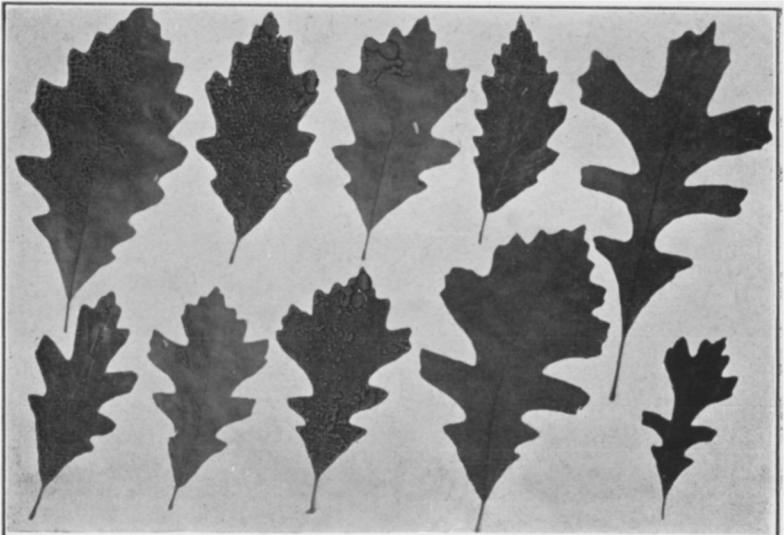
- FIG. 1. *Quercus lyrata* Walt., a leafless tree.  
FIG. 2. Cups and acorns, x .55.  
FIG. 3. Young leaves and flowering twig, x .42.

PLATE 17

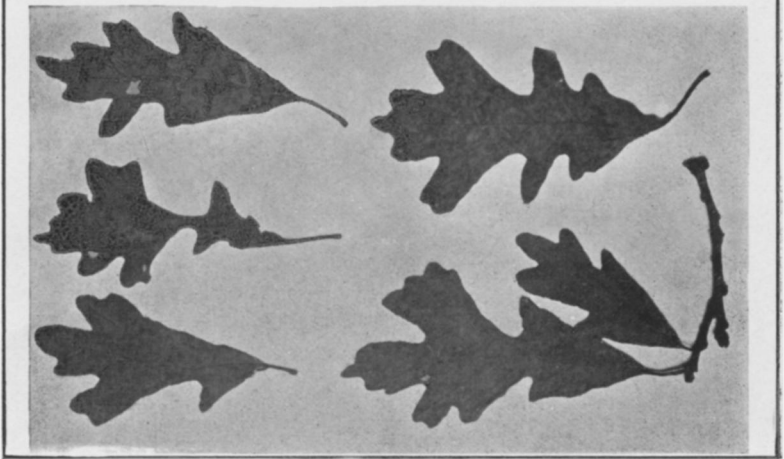
- FIG. 1. Mature leaves of *Quercus lyrata*, x .24.  
FIG. 2. Old leaves, taken a year earlier, x .30.



QUERCUS LYRATA WALTER



1



2

QUERCUS LYRATA WALTER